

**AMENDMENTS**

**IN THE CLAIMS:**

Claims 1-6. (Canceled)

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7. (Original) A method of producing an array of at least two different polymer ligands covalently attached to a surface of a substrate, said method comprising:
- (a) providing a substrate having a surface displaying olefin functional groups that consist of a single site of unsaturation;
  - (b) converting said olefin functional groups to ligand reactive functional groups that produce covalent bonds with said at least two different polymer ligands upon contact with said ligands; and
  - (c) contacting said surface with said at least two different polymer ligands to covalently bond said at least two different polymer ligands to said surface and produce said array.
8. (Original) The method according to Claim 7, wherein said polymer ligands are nucleic acids.
9. (Original) The method according to Claim 7, wherein said polymer ligands are peptides.
10. (Original) The method according to Claim 7, wherein said contacting step (c) comprises depositing each of said at least two different polymer ligands in a different region of said surface.
11. (Original) The method according to Claim 7, wherein said ligand reactive functional group produced by said converting step (b) is an aldehyde.
12. (Original) The method according to Claim 11, wherein said aldehyde is a benzaldehyde.

13. (Original) The method according to Claim 7, wherein said ligand reactive functional group produced by said converting step (b) is an activated carboxylate ester.
14. (Original) The method according to Claim 7, wherein said ligand reactive functional group produced by said converting step (b) is an amine
15. (Original) The method according to Claim 7, wherein said ligand reactive functional group produced by said converting step (b) is an imidazolyl carbamate.
16. (Original) A method of producing an array of at least two different nucleic acids covalently attached to a surface of a substrate, said method comprising:
- (a) providing a substrate having a surface displaying olefin functional groups that consist of a single site of unsaturation;
  - (b) converting said olefin functional groups to reactive functional groups that produce covalent bonds with said at least two different nucleic acids upon contact with said nucleic acids; and
  - (c) depositing each of said least two different nucleic acids onto different regions of said surface to covalently bond said at least two different nucleic acids to said surface and produce said array.
17. (Original) The method according to Claim 16, wherein said nucleic acids are oligonucleotides.
18. (Original) The method according to Claim 16, wherein said nucleic acids are polynucleotides.
19. (Original) The method according to Claim 18, wherein said polynucleotides are cDNAs.
20. (Original) The method according to Claim 16, wherein said ligand reactive functional group produced by said converting step (b) is an aldehyde.

21. (Original) The method according to Claim 20, wherein said aldehyde is a benzaldehyde.
22. (Original) The method according to Claim 16, wherein said ligand reactive functional group produced by said converting step (b) is an activated carboxylate ester.
23. (Original) The method according to Claim 16, wherein said ligand reactive functional group produced by said converting step (b) is an amine.
24. (Original) The method according to Claim 16, wherein said ligand reactive functional group produced by said converting step (b) is an imidazolyl carbamate.
25. (Original) A ligand array produced according to the method of Claim 7.
26. (Original) A nucleic acid array produced according to the method of Claim 16.

Claims 27-43. (Withdrawn)

44. (Original) A method according to claim 7 additionally comprising, following exposure of the array to a sample:  
reading the array.
45. (Original) A method comprising forwarding data representing a result of a reading obtained by the method of Claim 44.
46. (Original) A method according to Claim 45 wherein the data is transmitted to a remote location.
47. (Original) A method comprising receiving data representing a result of an interrogation obtained by the method of Claim 44.

Please add the following new claims:

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cont*  
48. (New) The method according to Claim 7, wherein said olefin functional groups that consist of a single site of unsaturation each comprise a terminal  $-\text{CH}=\text{CH}_2$  moiety.

49. (New) The method according to Claim 16, wherein said olefin functional groups that consist of a single site of unsaturation each comprise a terminal  $-\text{CH}=\text{CH}_2$  moiety.--

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